

REMARKS/ARGUMENTS

The present Amendment is responsive to the non-final Office Action mailed November 25, 2008 in the above-identified application.

New claim 18 is added. Therefore, claims 1, 2, 5-8 and 10-18 are the claims currently pending in the present application.

Claim 11 is amended to clarify a feature recited thereby.

Rejection of Claims 1, 2, 5-8 and 10-17 under 35 U.S.C. § 112, Second Paragraph

Claims 1, 2, 5-8 and 10-17 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite. Claims 1, and its dependent claims, claims 2, 5-8, 10, 14, 15 and 17, are rejected because it is allegedly unclear whether claim 1 is directed to a single flanged member or to the flanged joint comprising the flanged member and a corresponding second flanged member. It is respectfully submitted that a person of ordinary skill in the art would have readily understood that this is so at least for the reason that claim 1 begins with the term "a flanged member configured to be included as a first flanged member. . . ." Further, the preamble of claim 1 concludes with the phrase "said first flanged member comprising:" and the claim then goes on to recite elements of the first flanged member and properties thereof.

Claim 11 and the claims dependent therefrom, claims 12, 13 and 16, are rejected as being indefinite because of the recitation "said flanged member." Claim 11 is amended.

Rejection of Claims 1, 11, 12 and 16 under 35 U.S.C. §102

Claims 1, 11, 12 and 16 are rejected under 35 U.S.C. §102(b) as being anticipated by Watkins et al., U.S. Patent No. 4,183,562. Reconsideration of this rejection is respectfully requested.

Claims 1 and 11 require that at least a portion of the first load transferring surface in an unstressed condition is concave in a radial direction, such that the at least the portion of the first load transferring surface is curved and defined by a concave curve function, and that the first load transferring surface is concave in the radial direction over at least an area that is subjected to deformation when the first flanged member is assembled together with the second flanged member.

Watkins discloses a marine riser conduit section coupling wherein the outer surface for each coupling member includes an effectively continuous arcuate surface extending

circumferentially about substantially the entire outer surface of each coupling member from one axial extremity thereof adjacent the associated conduit section to an opposite extremity thereof (Watkins, Abstract). The Office Action cites Watkins, Fig. 6, which illustrates that upper connecting member 27 includes a flange 37 with an upwardly facing continuous arcuate surface 41, surface 41 being curved or nonlinear when viewed in cross section (Watkins, column 4, lines 18-29). The Office Action cites first end surface E which is adjacent to the second end surface E' of the second flanged end of the second flanged member 38, the Examiner identifying first end surface E and second end surface E' as the interface between the upper coupling member 27 and the lower coupling member 28 (Office Action, page 5).

Watkins does not disclose or suggest that at least a portion of the first load transferring surface in an unstressed condition is concave in a radial direction, such that the at least the portion of the first load transferring surface is curved and defined by a concave curve function, and that the first load transferring surface is concave in the radial direction over at least an area that is subjected to deformation when the first flanged member is assembled together with the second flanged member, as required by claims 1 and 11. That is, the first end surface E and the second end surface E' identified by the Examiner are illustrated in Fig. 6 of Watkins as straight lines, not as concave.

Further, the curved surfaces of Watkins face away from each other and have no abutment points configured to abut against a second end surface, as further required by claim 1. Watkins is silent with respect to any innermost and outermost abutment points on the load transferring surface that are configured to abut against a second end surface of a second flanged member, for at least the reason that, as discussed above, Watkins does not disclose or suggest a load transferring surface that is concave in the radial direction.

Moreover, claim 1 further requires that a proximal point on the at least a portion of the first load transferring surface and a distal point of the at least the portion of the first load transferring surface meet a plane inclined in the radial direction of the first flanged member. The Office Action fails to explain where in Watkins such an inclined plane may exist, and in fact, Watkins does not disclose or suggest a load transferring surface whose proximal and distal points meet such an inclined plane, as required by claim 1. Accordingly, Watkins does not disclose or suggest the recitations of claim 1.

Claims 12 and 16 depend from claim 11 and are therefore patentably distinguishable over the cited art for at least the same reasons.

Rejection of Claims 1, 2, 5-8, 10, 14, 15 and 17 under 35 U.S.C. § 103

Claims 1, 2, 5-8, 10, 14, 15 and 17 are rejected under 35 U.S.C. § 103 as being obvious from Buono, U.S. Patent No. 2,940,779. Reconsideration of this rejection is respectfully requested.

Claim 1 requires a flanged member with a proximal point on the at least the portion of the first end surface and a distal point on the at least the portion of the first end surface that meet a plane inclined in the radial direction of the flanged member.

Buono discloses a balanced face flange for a pipe 10 adjacent to a welding neck or a collar 18 that includes an annular sealing face 30 and a flat radial outer face 16 between which a gasket 24 is enclosed.

Buono does not disclose or suggest a concave end surface such that points of the concave end surface meet a plane inclined in the radial direction of the flanged member. Stated another way, Buono does not disclose or suggest an end surface at least a portion of which is inclined in the radial direction and is curved. As discussed, the annular sealing face 30 is not illustrated as inclined, let alone inclined in a radial direction. In addition, Buono does not disclose or suggest an end face at least a portion of which is inclined in the radial direction and is concave.

With respect to the lack of concavity disclosed by Buono, the Office Action mistakenly alleges that there is no known criticality associated with the concave curvature of the abutting surface, that it is well established that changes in shape are obvious expedients, and that changing the shape to yield a concave shape produces no new and unexpected results.

As discussed in previous submissions, and as would have been readily recognized by a person of ordinary skill in the art upon reading applicant's disclosure, a flange member is provided with an inclined concave end surface in order to prepare it against a convex bulging of the end surface caused by the affixing of the end surface of the flange member to another end surface of a second flange member and by pressure loads on the end surface over time. As explained, for example, at applicant's disclosure, page 3, deformation arises in end surfaces for various reasons over time, as a result of which they do not preserve their flatness but become slightly convex, that is, bulge outwards, for example when the bolts connecting the flanges are tightened. As a result of this bulging, contact points between the end surfaces become displaced outwards in the radial direction so that sealing abutment is disturbed between the end surfaces. Accordingly, by providing a concave surface at the time of manufacture, problems associated with a straight or planar surface are avoided and a convex bulging out can be controlled or

eliminated (applicant's disclosure, page 4, lines 7-29). This mistaken view in the Office Action may help explain the equating of Buono's tapered surfaces to a load transferring surface that is curved and defined by a concave curve function, as required by claim 1.

Claim 1 requires that at least a portion of the first load transferring surface in an unstressed condition is concave in a radial direction, such that the at least a portion of the first load transferring surface is curved and defined by a concave curve function. Buono discloses that the face preferably tapers uniformly forward from the axis both radially inwardly and radially outwardly of the axis (Buono, column 3, lines 4-11). Accordingly, Buono does not disclose or suggest the recitations of claim 1.

Claims 2, 5-8, 10, 14, 15 and 17 depend from claim 1 and are therefore patentably distinguishable over the cited art for at least the same reasons.

New Claim

New claim 18 is added so as more fully to claim patentable aspects of applicant's invention. New claim 18 is fully supported by applicants' disclosure, see, for example, Fig. 1.

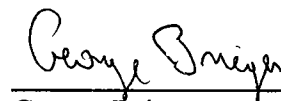
New claim 18 depends from claim 1 and is therefore patentably distinguishable over the cited art for at least the same reasons.

In view of the foregoing remarks, withdrawal of the rejections and allowance of the application are respectfully requested.

Respectfully submitted,

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RCF:GB/ns/jl



George Brieger
Registration No.: 52,652
OSTROLENK, FABER, GERB & SOFFEN, LLP
1180 Avenue of the Americas
New York, New York 10036-8403
Telephone: (212) 382-0700